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QUERY CONTROL FORM

RTIS USE ONLY

Application No. 10005993 Prepared by OT Tracking Number 5899128
 Examiner-GAU Kelly-1774 Date 3-12-04 Week Date IFW 2-2-04
 No. of queries 1

JACKET

a. Serial No.	f. Foreign Priority	k. Print Claim(s)	p. PTO-1449
b. Applicant(s)	g. Disclaimer	l. Print Fig.	q. PTOL-85b
c. Continuing Data	h. Microfiche Appendix	m. Searched Column	r. Abstract
d. PCT	i. Title	n. PTO-270/328	s. Sheets/Figs
e. Domestic Priority	j. Claims Allowed	o. PTO-892	t. Other

SPECIFICATION

- a. Page Missing
- b. Text Continuity
- c. Holes through Data
- ☒ d. Other Missing Text
- e. Illegible Text
- f. Duplicate Text
- g. Brief Description
- h. Sequence Listing
- i. Appendix
- j. Amendments
- k. Other

MESSAGE

ON page 27, lines 6, 7, 17 & 28 AND page 28, line 16, there ARE missing serial numbers.

CLAIMS

- a. Claim(s) Missing
- b. Improper Dependency
- c. Duplicate Numbers
- d. Incorrect Numbering
- e. Index Disagrees
- f. Punctuation
- g. Amendments
- h. Bracketing
- i. Missing Text
- j. Duplicate Text
- k. Other

PLEASE ADVISE

THANK YOU
initials OT

RESPONSE

Corrected — note that these 3 docket numbers are present in ambl's $a^1, a^2 + a^4$ (as canceled text), with the serial numbers.

-dyf

initials

10005993-110301

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3/31/64

number of individual layers of the hole transport regions 13, 23 and the electron transport regions 15, 35 can be selectively varied. Typically, in such embodiments, the number of layers of either of these regions is from about 2 to about 10, and specifically 2 or 3. As illustrated in copending applications U.S. Serial No. 09/770,159, and also in copending applications U.S. Serial No. ^{10/005,930} ~~(not yet assigned - D/A1251)~~; U.S. Serial No. ^{10/005,970} ~~(not yet assigned - D/A1406)~~; and U.S. Serial No. ^{10/005,404} ~~(not yet assigned - D/A1393)~~, filed concurrently herewith, the disclosures of which are totally incorporated herein by reference, the multiple-layered hole transport regions 13, 23 and electron transport regions 15, 35 can enable several desirable effects, such as improving the injection of carriers into the mixed regions 14, 24, 34 reducing the operating voltage and improving device efficiency and/or stability.

15 The hole transport material comprising the hole transport regions 13, 23 can also be N,N'-bis(p-biphenyl)-N,N'-diphenyl benzidine (biphenyl TPD), or a different material. As illustrated in copending patent application U.S. Serial No. ^{10/005,930} ~~(not yet assigned - D/A1251)~~, filed concurrently herewith, the disclosure of which is totally incorporated herein by reference, the use of different hole transport materials in the mixed regions 14, 24 and 20 the hole transport regions 13, 23 can permit a number of desirable features, such as, for example, increasing the stability of the organic light emitting devices 10, 20. Also, the hole transport materials used for the different layers of the multiple-layer hole transport region can be different or similar.

25 Similarly, the electron transport material comprising the mixed regions 14, 24, 34 and the electron transport material comprising the electron transport regions 15, 35 can be the same material, or different materials. As illustrated in copending patent application U.S. Serial No. (not yet assigned - D/A1251), filed concurrently herewith, the disclosure of which is totally incorporated herein by reference, the use of different electron

from organic electroluminescent devices", *Letters to Nature*, Volume 395, pp 151-154 (1998). Specific examples include 2,3,7,8,12,13,17,18-octaethyl-21H,23H-phorphine platinum(II) (PtOEP) and others, such as, for example, those disclosed in U.S. Patent 6,048,630, the disclosure of which is totally incorporated herein by reference, and fac tris(2-phenylpyridine)iridium (Ir(ppy)₃).

The luminescent material or compound need not be present in the mixed region in embodiments providing that this region is capable of emitting light, thus the electron transport can also function as a light emitter or an electroluminescent material. Both the electron transport material and the luminescent material can be present, including in embodiments where a number of different colors are desired.

Examples of electron transport materials for mixed regions 14, 24, 34 and the electron transport regions 15, 35 situated on the mixed regions 14, 34 can be the same or different materials, reference copending patent application U.S. Serial No. ~~10/005,930~~ ^{10/005,930} ~~(not yet assigned - D/A1251)~~, filed concurrently herewith, the disclosure of which is totally incorporated herein by reference, wherein the use of different electron transport materials in the mixed regions 14, 24, 34 and the electron transport regions 15, 35 can enable desirable features, such as, for example, an increase in the efficiency of the organic light emitting devices 10, 20, 30; also, the electron transport materials used in the different layers of the multiple-layer electron transport region can be different or similar.

Illustrative examples of electron transport materials that can be used in the mixed regions 14, 24, 34 and the electron transport regions 15, 35 include, but are not limited to, the metal oxinoids as those disclosed in U.S. Patents 4,539,507; 5,151,629; 5,150,006; 5,141,671, and 5,846,666, the disclosures of which are totally incorporated herein by reference. Illustrative examples include tris(8-hydroxyquinolate) aluminum (Alq₃),